

REMARKS

This Amendment is in response to the Office Action dated December 31, 2002. The Examiner therein rejected claims 45-64. Applicants herein amend claim 45. Claims 48 and 57 are canceled. Claims 45-47, 49-56 and 58-64 are thus pending.

Reconsideration of these pending claims is respectfully requested.

Rejections Under 35 USC 112

The Examiner rejected claims 49-50 under 35 USC 112, second paragraph. There are different units of measure and scales by which mechanical hardness can be measured. The present claims are not limited to a range of mechanical hardness, but rather a relative relationship of hardness between two recited materials in claims 49-50. The relative hardness of the coating layer material is relatively less than the hardness of the wafer material as recited in claim 49. In addition, the relative hardness of the coating layer material is relatively less than the hardness of silicon as recited in claim 50.

Applicants contend these claims are definite as amended herein and respectfully request reconsideration.

Rejections Under 35 USC 103

Claims 45-46 and 55-59 are rejected under 35 USC 103(a) over Yoshioka et al (US 6149727) in view of Inoue Kazuo (09-260471).

As recited in independent claim 45, the claimed invention includes a spin chuck having a wafer support surface, wherein the wafer support surface is formed with silicon oxide coated contact points.

Yoshioka meanwhile discloses a spin chuck constructed from sintered silicon carbide (SiC) substrate that is also coated with a chemically vaporized film of the same material. [Abstracts, Japanese translation provided by the Examiner.] The various mechanical and physical properties of SiC are referenced throughout this published application, yet there is no reference to silicon oxide materials. In fact, the SiC material disclosed by Yoshioka is viewed as improvement over comparable materials including a metal oxide. [TABLE 1] Yoshioka neither discloses nor suggests the invention as claimed in independent claim 45.

The Examiner further rejects other claims which depend from independent claim 45 in view of various references: claims 47-48 and 52-53 are rejected under 35 USC 103(a) over

Yoshioka in view of Inoue Kazuo as applied to claim 45, and further in view of Chu et al (US 6120660); claims 51-54 are rejected under 35 USC 103(a) over Yoshioka in view of Inoue Kazuo as applied to claim 45, and further in view of Lu et al (US 5904778); claims 60-63 are rejected under 35 USC 103(a) over Yoshioka in view of Inoue Kazuo as applied to claim 45, and further in view of Chen et al (US 5904778); and claim 64 is rejected under 35 USC 103(a) over Yoshioka in view of Inoue Kazuo as applied to claim 45, and further in view of Takamori et al (US 6306455). [Office Action, pp. 3-5.]

It should be noted that while Chu generally discloses the use of a silicon coating, there is no teaching or suggestion as to silicon oxide contact points to support a wafer or substrate. [Fig. 2E (205); col.6, ln.47 – col.7, ln.27.] Meanwhile, one of the benefits provided by the invention as claimed includes selecting a reduced number of contact points and the minimization of surface contact area. [See Fig. 8.] The claim rejections based on Chu and other references cited in the Office Action should be reconsidered. Because Applicants contend that because independent claim 45 as amended is allowable over the cited references of record, the claims dependent therefrom including further limitations are also allowable.

CONCLUSION

Applicants submit that the application is in condition for allowance and respectfully request the Examiner to expedite this matter so that a patent may issue. In the event there are any questions concerning this application, the Examiner is encouraged to contact the undersigned representative of Applicants.

Respectfully submitted,

WILSON SONSINI GOODRICH & ROSATI

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U.P. Peter Eng, Reg. No. 39,666

WILSON SONSINI GOODRICH & ROSATI
650 Page Mill Road
Palo Alto, CA 94304-1505
Direct dial: (650)849-3330
Customer No. 021971